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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,568	03/30/2004	Rahul Gupta	12406-155001 / P2004,0388	3687

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EXAMINER	
GARRETT, DAWN L	

ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
06/10/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/812,568	GUPTA ET AL.	
	Examiner	Art Unit	
	Dawn Garrett	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4,6,7,9-22,25,26 and 28-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,6,7,9-22,25,26 and 28-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5-14-08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 14, 2008 has been entered.

2. The amendment received May 14, 2008 has been entered. Claims 1, 2, 4, 6, 7, 9-22, 25, 26, and 28-49 are pending. Claims 3, 5, 8, 23, 24, 27, 50 and 51 are canceled. Claim 13 has the status identifier "currently amended", but it is unclear how the claim has been amended since nothing is underlined. Claim 49 is marked “previously presented”, but there is a strikethrough mark for “electrode” and “electron” is underlined. It appears based upon the prior claim amendment (dated 11/14/2007) present claim 13 should have the status identifier "previously presented". In claim 49, electrode should be deleted and the underlining from “electron” removed. Claim 49 should be marked “previously presented”.

3. The rejection of claims 50 and 51 under 35 U.S.C. 102(b) as being anticipated by Okunaka et al. (US 2002/0106529) is withdrawn due to the cancellation of claims 50 and 51.

4. The previous indication of allowable subject matter is now withdrawn upon further consideration of the prior art.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 2, 4, 6, 7, 9-11, 14-22, 25, 26, 28-30, 32-43, and 45-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okunaka et al. (US 2002/0106529 A1).

Okunaka et al. teaches organic electroluminescent devices comprising high-molecular compounds having a cross-linking group (see abstract). Components of the units involved in crosslinking include groups such as an ester group per the claim 1 requirement for a crosslinking agent (see par. 114). Per claims 1, 26, 39, 49, the binder polymer contained in the photoemission layer may comprise a crosslinkable group (see par. 112). Also, cross-linked polymers are taught to include polyvinyl carbazole type (hole transporting), polyalkylfluorene type (emitting), polytriphenylamine type (hole transporting), triazole type (electron transporting), and oxathiazole type with each having a photosensitive groups for crosslinking (see par. 115). The teachings of Okunaka et al. provide for light emitting or electron transporting polymers to be crosslinked. The portion with a photosensitive group reads upon the crosslinking agent and respective functionalities are provided by the agent. Hole transporting and electron transporting layers are also taught with regard to claim 1 (see par. 120). The cathode electrode layer reads upon the "electron injection layer" of claim 1 (see par. 137) (note that claim 1 and 26 do not expressly require electrodes and accordingly, the electron injecting electrode reads upon the electron injecting layer).

With regard to claims 4, 16, 17, 20, 29, 30, 32, 36, 37, 38, and 47, a hole transporting layer (taught at par. 120) inherently provides a function of electron blocking and an electron

transporting layer (taught at par. 120) inherently provides a function of hole blocking. Additionally, separate hole block layers are taught (see par. 150).

With regard to claims 7 and 40, the materials having a photosensitive group are considered to be initiating agents (see par. 115).

With regard to claims 9 and 41, OLED devices are formed (see par. 156).

With regard to claims 10, 25, 42, and 48, an electrode (anode) is formed (see par. 164).

With regard to claims 11, 15, 28, 43, and 46, light is emitted by the photoemission layer(s) (see examples).

With regard to claims 14 and 45, a thin film transistor is included (see par. 163).

With regard to claims 18, 21, 33, and 35, a hole transporting layer is taught (see par. 120). The hole transporting layer is considered to be capable of performing a wave-guiding function, since wavelengths of light may pass through the layer, absent evidence otherwise. Where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristics relied on (see *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 229 (CCPA 1971).

With regard to claims 22, 34, the organic electron transporting layer is considered to provide an electron injecting function (see par. 149 and 154).

Although Okunaka et al. does not appear to show an example comprising all of the features of the claims within one example embodiment, it would have been obvious to have formed a device comprising all of the required components, because Okunaka et al. teaches all of

the required components and one would expect a device comprising these features to form an efficient OLED as desired by Okunaka et al.

7. Claims 12, 13, 31 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okunaka et al. (US 2002/0106529 A1) in view of D'Andrade et al. (US 2002/0197511).

Okunaka et al. teaches an anode and hole transporting layer, but does not specifically teach PEDOT:PSS per claims 13 and 31. D'Andrade et al. teaches in analogous art that providing a layer of PEDOT:PSS adjacent the anode provides effective promotion of the injection of holes from the anode. It would have been obvious to one of ordinary skill in the art to have included a PEDOT:PSS layer in the Okunaka et al. device, because one would expect the similar benefit of effective injection of holes in the device.

Okunaka et al. teaches an electron injecting electrode, but does not specifically teach both an electron injecting layer and an electron injecting electrode (cathode) per claims 12 and 44. D'Andrade et al. teaches in analogous art that a cathode may be comprised of a bi-layer including LiF and Al. It would have been obvious to one of ordinary skill in the art at the time of the invention to have included a bi-layer cathode in the Okunaka et al. device, because one would expect the bi-layer cathode (reading upon an electron injecting layer (LiF) and a cathode electrode (Al)) to provide efficient electron injection for operation of the device.

Response to Arguments

8. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection upon further consideration of the prior art.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dawn Garrett/
Primary Examiner, Art Unit 1794